Dec. 1960

LITHOGRAPHIC ABSTRACTS

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LITHOGRAPHIC ABSTRACTS, DECEMBER 1960

PHOTOGRAPHY, TONE & COLOR CORRECTION

*FOUR COLOR REPRODUCING METHOD AND APPARATUS - Assigned to Time, Inc. Wm. W. Moe and Joseph G. Jordan. Official Gazette 757, No. 1, August 2, 1960, pp. 224-5. Black signal apparatus for a four color reproducing system wherein the intensities of three color analyzing light beams derived from colors in scanned elemental areas of the subject are represented by the respective amplitudes of three color signals which are color corrected after being developed from said light beams, and wherein signal selector means is adapted to receive inputs of said three color corrected signals to provide an output of a linear black signal as a function of that one of the color corrected signals which represents the maximum intensity light beam, said apparatus comprising a plurality of signal transfer means having their outputs connected to a common electrical junction and their inputs respectively adapted to receive respective ones of said three color signals before color correction, said signal transfer means being respectively characterized by input/output amplitude ratios of preselected values of which the ratio value for each transfer means is adapted to weight the signal passing there-through in accordance with the relative sensitivity of the eye to the color associated with such signal, said plurality of signal transfer means being thereby adapted to provide an ortholuminous signal at said junction, distortion amplifier means connected by its input to said junction to produce at its output an amplified ortholuminous signal of unreversed polarity, said amplifier means having a distortion characteristic providing different degrees of amplification when the input ortholuminous signal is derived from scanned shadow areas and other intensity areas, and a mixing network having a plurality of inputs which are, respectively, adapted to be connected to the output of said signal selector means, connected to said junction, and connected to the output of said amplifier means, said network being adapted to mix said linear black signal, ortholuminous signal and amplified ortholuminous signal to produce an output black signal with an amplitude-intensity characteristic whose slope is greater in magnitude in the highlight and shadow regions than in the median intensity region. (U.S. Patent 2,947,805 - June 15, 1955)

POLICROM CONTACT SCREENS. F. G. Wallis. The Litho-Printer, Vol. 3, No. 6, June 1960, p. 305; Printing Abstracts, Vol. 15, No. 9, Sept. 1960, p. 557. A wide range of sizes, screen rulings and screen angles is available in both the Policrom magenta and grey screens. Single 45° angle screens are available from 10x8 up to 24x32 in., while two circular screens are also provided. Further, three-colour sets, 15°, 45°, 75°, and four-colour sets, 15°, 45°, 75°, 90°, are both manufactured in sizes from 10x8 up to 24x32 in. Nine screen rulings are possible between 50 and 200 lines per in., both in the magenta and the grey, and they are available in contrasts which will suit either photo-engraving or photo-lithography. The Rototipo Policrom Bicolor Film Screen has thin black lines crossing at 90°, plus a magenta ruling, the dye vignetting down to the centres between the lines. The screens, which are available in sizes from 8x10 up to 24x32 in. and in rulings from 100 up to 200 lines per in., are intended for photogravure printing, particularly for printing on cellulose film, plastics and other non-absorbent surfaces, but can also be used for screen printing.

THE COMPLEXITIES OF COLOUR CLASSIFICATION. W. Schweisheimer. Printing World 167, No. 10, September 7, 1960, pp. 256 (1 page). The human eye can distinguish millions of color differences, more than 7,000 colors and shades have been tabulated, only about 3,400 words are listed for these shades. An instrument called the "Color-Eye" has been developed, which is said to be accurate within one-half of one percent. Some psychological effects of color are mentioned.

PHOTOGRAPHIC TYPESETTING METHODS AND DEVELOPMENTS. Eric Chambers. The Litho-Printer 3, No. 8, August 1960, pp. 422, 424 (2 pages). A review of the present status of phototypesetting starting with a bit of history and covering the present. Methods are divided into five main categories and examples of each are discussed briefly.

HALFTONE DOT FORMATION AND SCREEN DISTANCE. Anon. The Litho-Printer 3, No. 8, August 1960, pp. 410,12,13,14,19 (5 pages). After a brief review of halftone methods, author expresses belief that "for many years to come, the conventional halftone screen will be used predominantly in process and photo-litho work." There follows a rather extensive and well illustrated discussion of the conventional glass halftone screen, first explaining the reason for its common form, then going into the theory and practice of its use. Methods for determining screen distance are given in step-by-step detail. Effects of different variations are well illustrated in 5 illustrations.

THE COLOUR VARIO KLISCHOGRAPH. Roger Croxton. Process 67, No. 797, June 1960, pp. 190-191 (2 pages). A report on some months of use of the equipment on both flat copy and transparencies. High cost makes a continual flow of work necessary. Artists originals in watercolor, poster colors, etc. give no trouble; with color photographs Kodacolor or dye transfer; results are less successful. Work is on 22 x 28 in. copper with burnt in fish glue resist. A stylus lasts one to one and one-half days.

TECHNOLOGY OF NEW FILM BASES. J. M. Calhoun. Perspective 2, No. 3, 1960, pp. 250-256 (7 pages). A historical review shows that cellulose esters have dominated the film base field for 50 years. Recently synthetic polymers have appeared. These are reviewed as to their chemistry and physical properties. 4 Diagrams, 16 References.

HAS PROBLEM OF COLOUR MATCHING BEEN SOLVED? E. A. Apps. Printing World 167, No. 11, September 14, 1960, pp. 289 (1 page). Story on a set of water colors in Process Red (magenta), Process Blue (cyan), Process Yellow and Process Black for the preparation of original art work which will keep colors within the range that can be printed with similar process inks. They were introduced by PATRA.

SWISS EXPERT CITES ADVANTAGES OF ELECTRONIC FLASH IN REPRODUCTION. Herbert P. Paschel. Photo Methods For Industry 3, No. 9, September 1960, pp. 56, 58 (2 pages). Comment on articles by Wartburg appearing in Der Polygraph, Nos. 13 and 20, 1959. Tests are reported and graphs given to show effects of single and multiple flashes in comparison with arcs, with various photographic materials. Pulsed Xenon lamps are also proving to be a superior light source for many graphic arts applications. High costs of these newer light sources will slow down their general application. 4 sets of graphs.

THEORY OF COLOR VISION. Robert M. Boynton. Journal of the Optical Society of America 50, No. 10, October 1960, pp. 929-944 (16 pages). A theory of color vision is presented which attempts to account for the physics, physiology, and psychology

of the color-vision process. Three types of photo-pigments are assumed to be distributed among five types of cones. It is suggested that color signals are of an opponent-colors variety from retina to lateral geniculate body, then coded in terms of the four psychologically unique colors from the lateral geniculate to the visual cortex. The theory is quantitative and provides an explanation of protanopia, deuteranopia, and tritanopia. A new color diagram is developed, based upon the simplest version of the theory. Suggestions are made concerning how this diagram might be modified to produce a more uniform color space, and the meaning of such modifications is discussed in terms of the theory. 54 References, 7 diagrams.

ELECTRONICS IN COLOUR PRINTING. Gordon S. Allen. The Penrose Annual 54, 1960, pp. 90-94 + 2 pages illustrations (7 pages). The instruments described fall into two groups: 1. Automatic Color Reproduction. 2. Automatic Color Control on the Press. Equipment described and their functions are: The Scanatron, which produces 3 or 4 color corrected positives from photographic separation negatives. The Gammatron, an automatic developing system using a densitometer to control densities. The Automatic Idotron which monitors and controls printing density for each color of ink in gravure printing. The Inkatron which performs a similar function for sheet fed litho or letterpress presses. 3 Illustrations, 2 Line diagrams and a tipped in color gravure print color corrected by the Scanatron.

THE ATF TYPESETTER. Anon. The Lithographer and Offset Printer 56, No. 9, September 1960, pp. 13-15 (3 pages). The typesetter is a two-unit (keyboard-photo unit) using a six-hole punched tape system and operates on the spinning disc principle. The system of operation is described. Keyboard unit produces typed copy and tape corrections are easily made. The photo unit, and its justification method is explained. A type disc carries 2 fonts of 168 characters each. Sizes are available from 5 to 14 point. 1 illustration.

THE NEW ILFORD TRICHROME PLATE. Frank H. Smith. The Lithographer and Offset Printer 56, No. 9, Sept. 1960, pp. 30,32,33 (3 pages). Report of a test of an Ilford plate which is said to give equal contrast gamma in all three or four color separation negatives from the same development time and temperature. A new version has high sensitivity at the red end of the spectrum for convenience in making exposures through the narrow cut separation filters. 1 Chart.

HALFTONE PHOTOGRAPHY USING MAGENTA SCREENS. John M. Lupo, Jr. ODR Reproductions Reference Guide, 1st Edition, 1960, pp. 81,3,4,5,7,8 (6 pages). An elementary but somewhat detailed explanation with some simple theory included. The flash exposure technique is given. 7 Illustrations and 3 Tables, one of which is a trouble chart.

GRAPHIC ARTS CAMERA SPECIFICATIONS. Anon. ODR Reproductions Reference Guide, 1st Edition, 1960, pp. 92-95, 97-99 (7 pages). Given in tabular form. Headings are: Manufacturer Model, Overall Dimension, Copyboard Size, Maximum Film Size Handled, Enlargement, Reduction, Lens (Focal Length), Type, Camera Backs. 18 Manufacturers' products are listed and 3 pages of illustrations show 17 cameras.

PLANOGRAPHIC PRINTING PROCESSES

*REMOVING COATINGS FROM USED OFFSET PLATES BY MEANS OF ULTRASONICS. Anon. Poligraficheskoe Proizvodstvo; Form und Technik, Vol. 11, No. 6, June 1960, p. 292 (in German); Printing Abstracts, Vol. 15, No. 9, Sept. 1960, p. 556. A process has been developed at the Moscow Printing Research Institute for speeding up the removal

of lacquer and coating residues from used offset plates of all types (including offset-deep plates) by ultrasonics. A bath containing 0.5-0.8% caustic soda solution at 45-55°C. is used. Only 1-4 min. are required, followed by grinding and regraining for 10-15 min. The process can also be used for removing resists from photo-engraved plates.

*LITHOGRAPHIC PRINTING PLATES AND COATINGS THEREFOR. U.S. Patent 2,951,441 - Jan. 15, 1956. Murray Wolf and Harold R. Dalton - Assigned to Timefax Corp. Official Gazette 758, No. 1, September 6, 1960, p. 69. An electro-responsive planographic printing plate, comprising a flexible backing of a non-conductive material having an exposed lithographic surface coating containing hydrolyzed acrylonitrile polymer, and an intermediate electrically conductive coat.

PUMICE POWDER. Mike Geary. Modern Lithography 28, No. 8, August 1960, p. 48 (1 page). A brief report on Army Map Service investigation of pumice powder for the brush graining of zinc and aluminum plates. An imported Italian pumice was found best. A Federal Specification, available from the Superintendent of Documents, is cited. 1 Illustration.

LITHOGRAPHING ON PLASTIC (Final article in a series of 4). Mike Geary. Modern Lithography 28, No. 8, August 1960, pp. 46-48 (3 pages). A description of methods used by the Army Map Service in a highly specialized job of map printing on vinyl plastic. Subsequent forming operations complicated the problem. A specially formulated vinyl base ink is used. This caused certain static and other problems necessitating modifications in the press. The ink dries more rapidly than normal litho ink on paper, making possible a speed of 3,500 iph. 2 Illustrations.

HOW TO MAKE DEEP-ETCH ALUMINUM OFFSET PLATES. Chas. W. Latham. The Inland & American Printer & Lithographer 145, No. 5, August 1960, pp. 58-60 (3 pages). More expensive to make than surface plates due to extra steps but good choice for long runs. Still longer runs are obtained by copperizing. The operations involved in making the plates are given with explanations of the reasons for each. 2 Illustrations.

IS OUR PLANT READY FOR OFFSET PROCESS COLOR? Part II - PRACTICAL ASPECTS. G. H. Lytle. The American Pressman 70, No. 8, 1960, pp. 45-47, 63 (4 pages). Experience in black and white is helpful in going into color. The work is carried through camera, stripping, platemaking and press departments in terms of what they do to the halftone dot. The use of the gray scale is explained. 4 Illustrations.

PHOTOGRAPHIC PAPER MASTERS. Anon. The Litho-Printer 3, No. 8, August 1960, p. 404 (1 page). Description of the Ektalith system which in 2 minutes can produce an offset master from a variety of forms of originals, enlarged, reduced, or same size. Exposing, processing and transferring are the steps used. Equipment is described. 4 Illustrations.

THE PREPARATION AND USE OF OFFSET PLATES. James M. Dugan. ODR Reproductions Reference Guide, 1st Edition, 1960, pp. 102-5,7-9,11-13,15-17,19 (14 pages). A rather detailed description of platemaking from the duplicator standpoint. A table summarizes platemaking under the headings: Kind of original, Size of original, Processing Method, Kind of plate, Procedure. Thirteen items are covered in the table. Some of the procedures are covered by detailed instructions. 2 diagrams.

CHART OF PRESENSITIZED OFFSET MASTERS. Anon. ODR Reproductions Reference Guide, 1st Edition, 1960, pp. 120-121 (2 pages). The headings of the table are:

Name of Manufacturer and Nomenclature of Plate, Base Material, Size Range, Surface - Grained - Grainless, One or Two Sided, Positive or Negative, Maximum Shelf Life, Are Deletions Possible? Yes - No, Number of Re-runs, Approximate Length of Run. 31 types of plates are listed.

PAPER AND INK

*METHOD OF MAKING PRINTABLE COATED PAPER - Assigned to Consolidated Water Power and Paper Company, Inc. U.S. Patent 2,949,382 - Feb. 28, 1958. Gilbert K. Dickerman - Frank Kaulakis and Richard L. Savage. Official Gazette 757, No. 3, August 16, 1960, pp. 700-1 (2 pages). The method of making printable coated paper having a high degree of smoothness, brightness, opacity, and increased ink holdout, which comprises first applying onto the surface of a forwardly moving uncoated dry paper web, in a continuous paper-making process at paper-making speed, an aqueous coating composition comprising mineral pigment and adhesive by transferring said composition thereto from a resilient rotating surface, coated with a metered amount of said composition providing less than the desired final weight of coating but sufficient to prime-coat the web by covering fibers thereof and filling voids and surface irregularities therein to leave a level surface of substantially uniform receptivity and limited penetrability for a sequentially applied top coating, drying the resulting coated and filled web, carrying it forward by a resilient downwardly moving rotating surface and through a pool of a top aqueous coating composition of relatively lower viscosity than said first coating composition comprising mineral pigment and a proportion of a compatible adhesive to mineral pigment relatively lower than that in said first composition but sufficient to bind the pigment particles therein together and to the prefilled paper web and providing the balance of the desired final amount of solids and weight of coating, doctoring the resulting coating with a flexible blade upon emergence from said pool to level and smooth it and to remove excess while the web is carried by said resilient roll, and drying the resulting filled and coated web.

INK SOLVENTS THINNERS AND WASH-UP SOLVENTS. S. Michael Maida. Flexography 5, No. 9, September 1960, pp. 40, 43 (2 pages). Same article in: Gravure 6, No. 9, September 1960, pp. 24-5 (2 pages). Two tables set forth the particulars of the solvents. Headings cover: Type of ink; Uses of inks; Active solvents; Boiling point; Flash point and other data on solvents; and recommended Wash-Up Solvents.

MEASURING INK AND PRINTING QUALITIES FOR QUALITY CONTROL. Otto C. Stoessel, Jr. Modern Lithography 28, No. 8, August 1960, pp. 52-4,6,7, 103,4,7,9 & 111 (10 pages). Author points out need for certain controls over color and other properties of ink used in lithographing aeronautical charts, and the need for measurements for statistical quality control purposes. The methods of making these measurements and the instruments used are described and illustrated. These measurements are applied to raw materials and finished products. The numerous tests applied to both are listed and described briefly. A point system or "Quality Audit" for summarizing results is given. 16 illustrations and a chart.

THE PRINTING BUYER, THE PRINTER AND THE INK SUPPLIER ARE PARTNERS IN THE MATTER OF SPECIFYING INK. Tom Craig. The American Pressman 70, No. 8, 1960, pp. 24-26,28 (4 pages). The whole theme of this article is that in ordering ink the printer should give the ink supplier all the information that's pertinent in order to get the desired printing result. Examples are cited showing results of failure to furnish sufficient information. Some special printing circumstances are mentioned and a list of 13 facts influencing ink formulation is given. 4

Illustrations.

OXIDATIONS AND REDUCTIONS AT THE CARBON BLACK PARTICLE SURFACE. Andries Voet and Archie C. Teter. American Ink Maker 38, No. 9, September 1960, pp. 44-46, 51, 78 (5 pages). It has become increasingly apparent that carbon black is not nearly as inert from a chemical standpoint as had been previously considered. The outstanding properties of carbon blacks are not only connected with physical effects, but also may depend on chemical interactions at the particle boundary. Chemical reactions between carbon blacks and a chemically active dispersion medium may occur in reactive ink vehicles, such as unsaturated oils and resins and in unsaturated polymers, such as rubbers and related materials. The specific chemical groups and reactions and the methods of their study are gone into at some length with specific techniques given for quantitative evaluation. 1 Graph, 2 Tables, 19 References.

*CAST COATED PAPER AND METHOD OF MAKING THE SAME. U.S. Patent 2,950,214 - March 25, 1957. John W. Smith - Assigned to The Mead Corporation. Official Gazette 757, No. 4, August 23, 1960, p. 948. In the coating of paper to provide a cast-surfaced mineral coated paper having unusually high brightness and opacity and high gloss with enhanced affinity for receiving printing and the like, the process which comprises the steps of applying and distributing a predetermined and metered quantity of fluent mineral coating consisting essentially of an aqueous suspension of pigment and adhesive material to form a substantially smooth surface coating on the paper, bringing the coated surface of said paper into contact with an adhesive coagulating electrolyte while said coating is still fluent on said paper to progressively convert said adhesive into a substantially tough deformable gel while maintaining a substantially uniform and smooth surfaced layer of coating, bringing said coated surface of said paper into contact with a substantially smooth casting surface after said adhesive has been converted to said tough deformable gel, and drying said coating while said coating is in contact with said substantially smooth casting surface, and removing said coated paper from said casting surface.

TOXICITY AND PRINTING INKS IV. Anon. American Ink Maker 38, No. 8, August 1960, pp. 36-46 (11 pages). This consists of a series of tables of "Raw Materials" used in printing inks, compiled by the Technical Committee of the National Association of Printing Ink Makers. Common name and full chemical name are given for Pigments and Dyes. Other materials listed include: Driers and Soaps; Oils and Varnishes; Resins; Bitumens and Pitches; Solvents; Plasticisers; Waxes; Greases, Antioxidants, Wetting Agents; and Miscellaneous Chemicals. No mention is made of toxicity properties.

ATTAINMENT AND ASSESSMENT OF RUB RESISTANCE. Peter G. Richardson. The British Ink Maker 2, No. 4, August 1960, pp. 35-37, 39-41 (6 pages). The growth of the Supermarket and its influence on packaging and printing are pointed out. One result is the need for rub resistance in inks. This necessitates tests to assess this property. Several instruments for this purpose are discussed and illustrated. They are the Sutherland, PATRA, Hedley, FOGRA, IGT, Funditor, and a carborundum powder apparatus. Ink formulation in terms of pigment, media, and waxes and additives are discussed briefly. 3 references, 6 illustrations.

LITHOGRAPHY - GENERAL

*SPRAY DAMPENING SYSTEM FOR LITHOGRAPHIC OFFSET PRINTING PRESSES. U.S. Patent 2,949,850 - April 3, 1957. Charles H. Borchers - Assigned to Lithographic Technical

Foundation, Inc. Official Gazette 757, No. 4, August 23, 1960, p. 844. A spray dampening system for lithographic offset presses which include a rotating printing plate cylinder, such system comprising: a chamber arrangeable in close proximity to said cylinder and having a slot therein opening toward said cylinder; means for introducing into said chamber an atomized spray of a dampening agent; means for increasing the air pressure within said chamber to cause the atomized spray introduced therein to flow through said slot; and means for at times creating a partial vacuum within said chamber to impede the flow of said atomized spray from the slot.

FIVE LITHOGRAPHIC HURDLES - AND HOW WE MUST CLEAR THEM. Michael H. Bruno. Modern Lithography 28, No. 8, August 1960, pp. 41-45 (5 pages). Despite the research that has been done, lithography still has some limitations that can restrict its future growth. These are (1) the variability of the ink-water balance, (2) the need for special characteristics in paper, (3) the use of tacky inks, (4) the possibility of slur in the impression when printing on smooth surfaces, and (5) the overall content of the blanket with the paper in the impression nip. In addition it suffers from the use of poor pigments, the fact that papers are not white and the graying of halftone tints. Developments in photography, platemaking, press, and paper and ink are helping to eliminate these limitations. Balanced inks, better plates, the Dahlgren and other dampening systems, a new disposable blanket, ink transfer and tinting studies, and work on the development of a print quality instrument may eventually lead to automation of quality on the press. (From a paper presented at the 1960 TAGA meeting.)

*WHAT LITHOGRAPHIC RESEARCH IN AMERICA IS DOING FOR THE PACKAGE PRINTER. M. H. Bruno. Paper & Print, Vol. 33, No. 2, Summer, 1960, pp. 169, 171-2, 216; Printing Abstracts, Vol. 15, No. 9, Sept. 1960, p. 555. Improvements and developments in lithographic plates, dampening systems, blankets, colour reproduction and automatic control of quality are discussed.

EUROPEAN PHOTO-LITHO. F. G. Wallis. The Penrose Annual 54, 1960, pp. 115-117 (3 pages). Report of impressions brought back from a study tour. Some of these impressions: Trend is toward standardization of methods, presses, inks, etc. The darkroom type camera is in most use and film and contact screens are preferred. Photographic color correction is in universal use. Plateroom trends: vertical whirlers, horizontal printing frames, 3 phase arcs, proprietary coating solutions, some presensitized plate use for proofing. The Roland appears to be the leading press. Offset is increasing in magazine and book production. Photocomposition was completely absent, evidently all plants visited were combination plants and composition by hot metal and reproduction proof was the common practice.

WEB OFFSET IN THE SHEET-FED PLANT. R. B. Hubbard. The Litho-Printer 3, No. 8, August 1960, pp. 406,407,409 (3 pages). An analysis of the type of work which a large sheet-fed offset plant might put onto a web press told in the experiences of the author's plant. Much of this work was work formerly turned down, some was based on projected growth of existing work. Other factors governing division between sheet and web presses are pointed out. Quality control standards are the same for both types of work. 3 Illustrations.

OFFSET PROGRESS ABROAD. F. G. Wallis. Printing Magazine 84, No. 8, August 1960, pp. 60-1 (2 pages). A report on a visit to 12 Continental European printing and platemaking firms. Some general impressions. Much printing is done in Holland and Germany for export. There has been much post war expansion. Standarization within a company on one brand of press, of plate, of ink, etc. is

common. Ten of the 12 used contact screens. All firms used masking for color correction, yet retouching departments were large. Specific details in plate-making and other operations are discussed. 2 Illustrations.

TROUBLE CHART FOR OFFSET PRESSMEN. Anon. ODR Reproductions Reference Guide, 1st Edition, 1960, pp. 146-147 (2 pages). A tabular presentation with the following headings: Trouble - Term - Cause - Possible Cure. 16 troubles are listed and analyzed. Modified from a chart issued by the Lithographic Division, New York Employing Printers Association, Inc.

CHART OF OFFSET AND RELIEF DUPLICATORS AND PRESSES. Anon. ODR Reproductions Reference Guide, 1st Edition,1960, pp. 136-139, 142 (5 pages). Chart headings are: Name of Manufacturer Model, Maximum Printing Area, Gripper Margin, Maximum Sheet Size, Minimum Sheet Size, Stock Range, Feeder Capacity (20 lb.), Delivery Capacity, Speed Range, Plate Size, Floor Space, Net Weight. Some 45 models are listed and nine illustrated on a separate page.

GRAPHIC ARTS - GENERAL

ENGINEERING A PLANT LAYOUT - PART I. Anon. Book Production, August 1960, pp. 20-21 (2 pages). A story on National Publishing Co. of Philadelphia which was to be forced from its present (since 1890) location due to an urban redevelopment program. This first installment sets up the requirements and after the exploration of 75 prospective sites, an almost perfect fit was found. Layouts are shown for the seven floors and basement of the building acquired.

PART II
Ibid - September 1960, pp. 60,79 (2 pages). After the building was chosen, a relocation committee took over. Individual floor diagrams and scale models were used for location of equipment. Flow was from a basement storage area to top of building, then downward to where finished books reached storage beside the incoming materials. 6 Illustrations.

SURVEY OF PAPER CUTTING EQUIPMENT - PART I. Anon. Book Production, July 1960, pp. 34-6,66 (4 pages). Part One gives features of domestic machines. Design trends point to wider use of spacer attachments, rear-loading, materials handling devices. Cutters by Lawson, Brackett, Seybold, Challange, and Chandler & Price are described and specifications given. 4 are illustrated.

PART II
Ibid - August 1960, pp. 38-40, 57 (4 pages). European imports feature extensive size ranges and versatility in selection of optional equipment. Cutters by Como, Furnival, Polar, Printax, Regent and Senator are described and specifications given. 5 are illustrated.

CUTTING DOWNTIME WITH PROPER LUBRICATION. Anon. Book Production, August 1960, pp. 41-2 (2 pages). Machine life is extended by following manufacturer's recommendations. The advantages of centralized lubrication and of hand oiling are discussed in relation to the type of equipment involved. Certain differences between newer and older types of machinery with regard to lubrication are pointed out. A "Simplified Lubrication Plan for Printing and Associated Publishing Machinery" is given in tabular form.

SEES BRIGHT FUTURE FOR SHALLOW-ETCH WRAP-AROUNDS. John W. Rockefeller, Jr. The Inland & American Printer & Lithographer 145, No. 5, August 1960, pp. 76-7 (2

pages). Author reports a number of experiments on printing with shallow-etch wrap-around plates. His conclusion, after some tests of his own, was that .005 in. or even less would do if the press is right. Tests on presses have been encouraging. A number of encouraging conclusions are given with suggestions on press and roller design.

A COMPARATIVE STUDY OF SENSITIZING SALTS FOR GRAPHIC REPRODUCTION PROCESSES. H. L. Howard and G. C. Wensley. Printing Technology 14, No. 1, August 1960, pp. 9-18 (10 pages). Report on studies of ammonium, potassium and sodium bichromates in sensitizing Autotype carbon tissues. The three were used in gravure etching with all other factors constant. Results showed that all three could be used, but there were differences to be taken into account. These and other results discussed at some length, especially as to changes which take place during various steps of use. 12 references, discussion.

A STUDY OF THE TONE REPRODUCTION OBTAINED ON PRINTS PRODUCED FROM POWDERLESS ETCHED PLATES. S. D. Winn. The Journal of Photographic Science 8, No. 5, September/October 1960, pp. 173-177 (5 pages). A series of experiments designed to give information concerning the changes in dot size that occur in letterpress printing during the sequence negative-powderless etched plate-final print on paper, are described. Graphs showing the relation between the percentage printing area on the plate and the percentage printing area on the negative are given. The graphs obtained by plotting the optical densities of the prints against the optical densities of the negatives in the case of letterpress and lithographic printing are compared. 4 tables, 5 graphs, 1 reference.

NOISE CONTROL CAN INCREASE PRINTERY PROFITS. Peter W. Sherwood. The Australasian Printer 11, No. 8, August 1960, pp. 35-36 (2 pages). Excessive industrial noise is an expensive industrial hazard. Zoning regulations are controlling it. Noise effects are analyzed in terms of intensity and frequency and data given on safe limits.

REGISTRATION OF PRE-PRINTED GRAVURE WEBS. D. H. Bent. The Penrose Annual 54, 1960, pp. 87-89 (3 pages). Efforts had been made for some time to take advantage of the superior color of gravure and introduce pre-printed webs into newspapers. Registration troubles led to use of continuous patterns. Finally electronic equipment was developed to control infeed to assure properly registered cut-off. The equipment is described briefly. An example is tipped in.

PROGRAMME OF PRINTING RESEARCH. V.G.W. Harrison. The Penrose Annual 54, 1960, pp. 108-110 (3 pages). PATRA's research program has undergone a complete revision. Basic research has 6 programs: 1. Print quality, 2. Cylinder packing (problem of cylinder rolling on a plane), 3. Printability of paper, 4. Rheology of printing inks, 5. Tone rendering in halftone by lithography, 6. Ink-water relationships of litho plates. Applied research program has 7 items: 1. Masking in color reproduction, 2. Depth of etch measurement in gravure, 3. Printability of gravure papers, 4. Contact screens for letterpress and gravure, 5. Second impression cylinder set-off in newspaper printing, 6. Durability of bookbindings (3 items), 7. Wear of resilient plates. Each is commented upon. The program includes periodical reassessment of each project by an advisory panel.

THEORY OF IMPRESSION AND ROLLING CONTACT. R.D.W. Miller. The Penrose Annual 54, 1960, pp. 111-114 + 2 pages illustrations (6 pages). A report of studies in which two cylinders of like diameter, one resilient, one non-resilient, are rolled in contact under varying pressures. Experiments with solid metal against a rubber

covered roller showed that "the rolling radius of rubber-covered rollers is increased by deformation." Work has also been done with various packing materials, litho-blankets, etc. Implications in printing operations are pointed out. Work is continuing. 6 Illustrations, 5 References.

EMPHASIS ON QUALITY CONTROL AT STRAWBERRY HILL. Anon. Gravure 6, No. 9, September 1960, pp. 16-19 (4 pages). A story on quality control methods used by a large package printing house. Control starts with incoming paper, ink and cylinders. The department has air-conditioned, specially lighted (for color control) quarters. Methods and instrumentation are described. Printing is by gravure and letterpress. 10 illustrations and a tipped in soap wrapper on foil.

THE GUTENBERG BIBLE. Anon. Gravure 6, No. 9, September 1960, pp. 14,15,56, 58 (4 pages). Some details are given on the reproduction in America of the five centuries old book. 97 illuminated pages are being done by five-color process sheet fed gravure. Conventional gravure is used with the process in 150-line screen, the type is 300-line screen. The 1185 pages of type alone are being printed by lithography in 3-color line to reproduce faithfully the rubrication which enhances the black letters. 4 Illustrations.

SILK SCREEN PRINTING TODAY. Sam Chester. The Graphic Arts Buyer of Chicagoland 2, No. 1, Fall/1960, pp. 14-15 (2 pages). Present day silk screen printing is largely from photographically prepared screens. Hand methods are largely out. A list of typical applications is given. Quickness of screen preparation is a feature. Production runs of from 5 to 10,000 is given as the ideal range. 3 Illustrations.

CAMBRIDGE UNIVERSITY PRESS DISCLOSE NEW FLEXIBLE STEREO FOR FINE BOOKWORK. Anon. Printing World 167, No. 5, August 3, 1960, p. 123 (1 page). Survey of existing plates for both long and short run printing of Bibles, text-books and other books; including a study of the etched wrap-around variety led to the feeling that none met requirements. Experimental work led to the invention of a plate (patented) consisting of a firm plastic printing surface on a resilient rubber base. Claimed to be simple and inexpensive to produce, gives first-class results with very great economy. Runs up to 100,000 without evident wear are mentioned. Other details are given.

Conclusion
IBID 167, No. 8, August 24, 1960, p. 198 (1 page). It is pointed out that the resilience in printing this plate is in the plate itself rather than in impression cylinder packing. The comparative absence of makeready plus high press speeds mean economy. The press used (a Dawson, Payne & Elliott rotary) is described. 2 Illustrations.

RELIGIOUS PUBLISHER BUILDS MODEL PLANT. Anon. The Inland & American Printer & Lithographer 145, No. 5, August 1960, pp. 52-54 (3 pages). A story on the planning of a printing plant to meet the needs of a publisher of religious books, pamphlets and weeklies. A small amount of commercial work is done for others. A floor plan of the plant is given and equipment described. Both letterpress and lithography are done. 8 Illustrations.